**Title:** An analysis of invitations for article submissions received *via* emails

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**Abstract**

Predatory journals charge publication fees from authors and publish without an adequate peer review and often do not provide editorial and/or publishing services. Our objective was to evaluate e-mail solicitations received by authors in a defined time period to identify attributes of these solicitations as a metric to identify legitimacy of the journal. All e-mails seeking article submission received between 1st Jan and 30th Sep 2019 were evaluated. Each e-mail and their respective webpage were evaluated for various descriptors. Descriptive statistics were used for analysis. Of the 135 e-mails screened, 100 were finally included in the analysis. We found that 72% of the journals and/ or publishers were listed in Beall’s list and according to author’s criteria a total of 85% of the solicitations were from presumed predatory journals. Our study has identified some descriptors which may help young authors and researchers to assess a journal’s legitimacy.

**Background and rationale:**

Predatory journals pay scant attention to the quality of science they publish. Although there is no standardized definition for predatory journals, the description(5) *“Predatory journals and publishers are entities that prioritize self-interest at the expense of scholarship and are characterized by false or misleading information, deviation from best editorial and publication practices, a lack of transparency, and/or the use of aggressive and indiscriminate solicitation practices*”, covers the myriad aspects of the deception used by these journals. By publishing research articles of poor scientific quality, they pollute the scientific literature. Jeffrey Beall, a librarian and associate professor in the University of Colorado, Denver, published a list of such journals and publishers (Beall’s list) (6), which is periodically updated. Others have also put forth criteria to help identify predatory journals (7,8,9,10)

Many journals (whether *“predatory”* or legitimate), solicit manuscripts from potential authors *via* e-mails. For the former, many of these e-mails come with a sense of urgencyandoften an assurance of a rapid turn-around time. While several studies have focused on the problem of predatory journals, very few have actually analyzed how authors may be tricked into publishing in them (11). An analysis of these e-mail solicitations [electronic submission requests] could potentially help identify characteristics of these journals and determine whether [or not] they may be predatory. The present study was thus envisaged with the primary objective of evaluating e-mail solicitations received by authors in a defined time period to identify attributes of these solicitations as a metric to determine the legitimacy of the journal.

**Methods:**

*Ethics:* The study was conducted after the protocol was exempted from review by Institutional Ethics Committee [IEC] [EC /OA-73/2019].

*Time period and selection criteria:* All e-mails received by the authors that solicited articles from 1st Jan 2019 to 30th Sep 2019 were evaluated. Inclusions were e-mail solicitations with or without any other request [e.g. to serve on the editorial board in addition to requesting a manuscript]. Duplicate e-mails, e-mails from non-medical journals (for e.g. engineering, agriculture, astronomy), e-mails from publishers regarding multiple journals, those from conference organizers or book publishers and e-mails containing invitations other than article solicitation (e.g. editor) formed the exclusions.

*Study procedure:* It consisted of two parts – evaluation of the e-mail followed by evaluation of the journal’s website [done independently by SS and SBB]. In the former we looked at descriptors such as journal and publisher name, mention of peer review, assurance for publication, mention of article processing charges (APC), and any additional information. In the latter mention of peer review, presence and functionality of archives and manuscript management system, mention of APC, name of the publisher if missing in the e-mail and any additional information were assessed. A specific additional information that was looked at was a statement that the journal complied with the Medical Council of India [MCI] and University Grants Commission [UGC] publication norms for promotion.

The journal website was accessed either *via* the link provided in the e-mail or *via* a Google search. The information gathered from the e-mail and webpage was then compared.

*Criteria for deciding whether a journal and publisher were potentially predatory:* We checked if the journals and their publishers featured in the Beall’s list. It was also checked if these journals were included in the Directory of Open Access Journals (DOAJ) [directory], PubMed [interface], MEDLINE [Index], or PubMed Central (PMC) [Repository].

*Classification of journals and their publishers*: Post evaluation, all journals and their publishers were classified as *presumed predatory* and *“others”* based on a few criteria developed by the authors. These criteria covered descriptors in both the e-mail and the website.

We developed our own criteria for classifying an e-mail as belonging to a presumed predatory [or legitimate journal]. These included:

* assurance of publication or rapid turnaround time (any duration less than 30 days),
* false claims of indexing (e.g. DOAJ, PubMed, Scopus) and
* discrepancy of information provided (when compared with e-mail and webpage of journal and also within webpage).

Based on the presence of one or more criteria, a journal described in the email was classified as presumed predatory journal or presumed legitimate.

*Outcome measure:* The proportion of *Presumed predatory* and *Presumed legitimate* journals as a percentage of the total emails received formed the primary outcome measure.

*Statistical analysis***:** Both descriptive and inferential statistics were applied to the data. Quantitative data (like number of journals or publishers) were summated, while categorical variables were presented as proportions. Inferential statistics was computed using Chi-square test for categorical data. All analyses were done at 5% significance using SPSS version 25 and MS Excel 2016.

**Results:**

*Demographics [overall]:* A total of 135 e-mails were received during the study period of which 35 (25.93%) met the exclusion criteria and the remainnig100 e-mails formed the final sample that was analyzed.

*Analysis of descriptors:* The e-mails described a total of 100 journals and 50 publishers. Forty e-mails mentioned peer review, two gave an assurance of publication while18 mentioned APC. A total of 13 e-mails had composite invites [for example asking to serve on the editorial board or join as a reviewer in addition to submitting a manuscript]. This is outlined in Table 1.

*Analysis of Additional information:* Two journals assured publication of submitted manuscripts and 16e-mails provided assurance of a rapid turnaround time (median[range] 10 days[1-30]). Fourteen e-mails mentioned discounts on APC for a limited duration while 22 e-mails mentioned an impact factor of the journal. Thirty-three e-mails mentioned about last date of manuscript submission (for consideration for the next issue) while 10 e-mails listed indexing agencies where the journal was indexed. Twenty e-mails assured that a best article award and certificate will be provided. Seventy-six e-mails provided a link to the journal website. Of these 76, the link was non-functional in seven. Five e-mails made a statement of the journal being compliant with the MCI and/or UGC norms for promotion. None of these 5 emails mentioned APC and 3 of them gave an assurance of publication. [as shown in Figure 1]

*Analysis of the website* *for descriptors:* All the journals mentioned in the e-mails had a searchable website and 98/100 mentioned peer review. Eighty-one had functional archives, 6 had no archives and 13 either had non-functional or poorly designed archives. Only 22 journals mentioned in the e-mails had a functional manuscript management system. Eighty-two journals mentioned APC on the website. [as shown in Figure 2]

*Additional information obtained from the websites:* We also noted that few journals (5%) claimed peer review, however they had at the most two reviewers mentioned on their website. When claims of indexing (DOAJ/ PubMed) was verified, we found that 31/100 journals made false claims that they were indexed. Some journals (21%) promised a rapid turn-around time instead of assurance of publication. We also observed that 25/100 (25%) journals would charge for withdrawal of manuscript at any stage after submission. Some journals (35%) had different APCs based on either nature/length of manuscript, or nationality of authors, or number of authors.

*Comparison of information provided in e-mail and webpage:* Only 40 e-mails mentioned peer review, while 98 journals mentioned peer review in the webpage. In the e-mail invitation, 83% e-mails did NOT mention APC, while, on the webpage only 18% did not mention APC. It was noted that 81/100 journals had discrepancy of information provided in email and webpage or within webpage.

*Beall’s list:* In all, a total of 72 [either journal or publisher] had their names listed in Beall’s list. Of these, 10 were journals, 58 were publishers and 4 were where both the journal and publisher names were listed.

*Indexing of journals:* Fifteen of the 100 were PubMed searchable; two were indexed with MEDLINE, 14% were found in PubMed Central [PMC], and only 1 was listed in DOAJ. Of the 15 (80%) PubMed searchable journals 12 were found in Beall’s list.

*Final classification of journals mentioned in e mails as presumed predatory or other journals:* Using our pre-defined criteria, we classified 85% of the e-mails as coming from “presumed predatory” journal.

**Discussion:**

Our audit of one hundred e-mail solicitations from journals/ publishers seeking manuscript submissions showed [after analysis of the e-mail and the corresponding website] that a majority [85%] of solicitations were from journals *presumed predatory* in nature.

The difficulty in defining predatory journals lies in the fact that features of legitimate and predatory journals overlap. Our classification of journals and publishers contained in the e mail solicitations as potentially predatory was based on the criteria identified after a literature search since there exist no clear-cut criteria for their classification. Cabell’s and Beall’s criteria may not be easy to use for the average researcher as the former has 65 and the latter 14 criteria (6,7,8). Also, researchers tend to primarily focus on journals and rarely on the publishers and both these criteria also include elements for classifying a publisher as potentially predatory. In addition, the lists are not infallible and are updated only periodically. Thus, the criteria identified by us may help raise “red flags” for researchers who receive these e-mail solicitations.

In legitimate journals, manuscripts submitted undergo a formal peer review process following which manuscripts are either accepted for publication or rejected. This peer review process is time consuming and may take up to several weeks. Thus, journals that follow an authentic peer review process cannot provide assurance of publication or a short turn-around time for the submitted manuscripts (12, 13). False claims of indexing and contradictions in the in information provided in emails and journal/ publisher websites indicate an obvious unfair and dishonest attempt to entice the invitee to submit the manuscript.

It is a common practice for several Open Access [OA] journals to charge APC from authors (2,3). This is a fair practice, since the Journal does not charge readers for access and someone has to bear the cost associated with running the journal. This information is important for the contributor, as the expenses involved will be one of the factors that an author would consider while choosing the journal. We found that 83 emails did not mention APC in email invitation. However, 65 of these 83 journals mentioned APC on the webpage. This is a clear attempt to hide this vital information. Out of these 65 journals, 61 were listed in Beall’s list. The practices of offering discounts in APC is also a suspicious practice. First of all, one cannot verify if the discounts are real. Secondly, it may indicate that the journal is facing a shortage of manuscripts, and hence is lowering its charges. Charging fees (usually unspecified) for withdrawal is also an unfair practice. If an author comes to know about a journal’s predatory nature and intends to withdraw a submitted manuscript, the journal may not allow this unless fees are paid. We also think that practices like providing additional certificates of publication or institution of an Award for best published paper are also practices to entice young authors.

Presence of peer-review process, editorial board, indexing, recognized publishing standards and transparency about levied charges are the attributes of reputable journals (14). However, authors cannot check if the journal undertakes a peer-review, whether the editorial board is real and if it follows recognized publishing standards. Hence, we used proxy descriptors (number of reviewers listed on the website, functioning archives, functioning manuscript management system) to determine the journal’s/ publisher’s commitment to quality and willingness to incur expenditure to ensure that the scientific material is digitally preserved for future researchers.

We found that a small percent of journals making a statement of following MCI and/or UGC norms of publication. This is relevant to only Indian authors, as academicians’ promotions to higher post depend on publication of research papers in “MCI and/ or UGC approved journals” (15). This is again a red flag as this is an obvious attempt to entice Indian authors to submit manuscript for economic gains. It is noteworthy that even journals claiming to be International journals (n=1) mentioned this attribute.

Our finding of 12% *potentially predatory* journals being PubMed searchable is worrisome as it is a common assumption that “presence in PubMed” makes a journal legitimate. The fact that predatory journals, at times, “leak” into PubMed has been noticed earlier (16,17) with calls for the National Library of Medicine to tighten its criteria and processes. Researchers need to make the distinction between “PubMed searchable” versus “MEDLINE indexed” both of which are separate entities albeit used interchangeably erroneously.

A few authors have studied email solicitations received. They have noted that many a times these invitations are received from young journals(11), and that most of the journals inviting authors charge a comparatively lower article processing charges than reputed journals(11), are not registered with DOAJ despite being open access journals and do not have a journal metric(18). However, none of these authors have attempted to compare the descriptors in the invitations from predatory and other journals.

Our study was limited by small sample size, short duration of study, and the use of a single tool (Beall’s list - as other tools were not freely available). In addition, as stated earlier, our criteria may not to be entirely watertight to clearly distinguish between potentially predatory and potentially legitimate journals. As seen from Table 1, barring the prize criteria, many attributes of the two sets of journals do have similar or close to similar proportions. However, the criteria defined by us to help raise “red flags”.

In summary**,** an overwhelming majority of e-mail invitations appear to be sent by *presumed predatory* journals. Young researchers may get enticed to submit their valuable research articles to *presumed predatory journals, as these* are the “scourge of scientific literature” as they cause damage to individual scientists, to science itself, and to other legitimate entities. Authors should first note that it is rare for reputed journals and those indexed in Medline or DOAJ to send personalized invitations to prospective authors inviting manuscript submission. Some journals may request reviewers to write a commentary or editorial on the article that they have reviewed (11). Authors should follow the principle of ***“think-check-submit”*** to make their own decision regarding the legitimacy of the journal. They should scrutinize the journal and publisher websites and look for discrepancies and contradictions in the information provided. Our study has found some attributes/ descriptors to identify presumed predatory journals. Researchers may benefit by using these descriptors/ attributes. However, finally, it is only individual integrity that would help in curbing the vicious cycle of predatory journals/ publishing.

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**Figure 1: Bar chart depicting descriptors mentioned in the e-mail**

**Figure 2: Bar chart depicting descriptors from webpage**

**Note:**

Functional archive: when the tab/link for archive is working properly.

Functional manuscript management system: when the tab/link for the same is working properly

Few reviewers: less than five reviewers

**Table 1: Distribution of descriptors across presumed predatory journals and others**

|  |  |  |
| --- | --- | --- |
| **Descriptor in Email/ Journal or publisher website** | **Presumed predatory**  (N=85)  n (%) | **Other**  (N=15)  n (%) |
| Link to journal website (n=76) | 64 (75.3) | 12 (80.0) |
| Certificate of publication/ Best article Award (n=9) | 9 (10.6) | 0 (0) |
| Mention of last date of submission (n=33) | 30 (35.3) | 3 (20.0) |
| Discount in APC (n=5) | 4 (4.7) | 1 (6.7) |
| Functional archive (n=81) | 71 (83.5) | 10 (66.7) |
| Functional MMS (n=22) | 19 (22.4) | 3 (20.0) |

APC: Article processing charges; MMS: Manuscript management system